

Afferton 2003-0075

following the phrase are part of the claimed invention. Similarly, in connection with claim 46, the Examiner asserts that the phrase "corresponding in number to the number of ODS connection points" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention.

Applicants' respectfully state that, relative to both claims 21 and 46 the "limitation(s) following the phrase are" are "part of the claimed invention," as is the case with **any and all** limitations that follow **any** phrase of a claim.

The Examiner cites MPEP 2173.05(d), but the question that MPEP 2173.05(d) addresses is how to treat an example that is included in a claim, and concludes that

If stated in the claims, examples and preferences >may< lead to confusion over the intended scope of a claim.

However, neither claim 21 nor claim 46 includes an example or a preference, so the ambiguity that an example may introduce, and which MPEP 2173.05(d) aims to prevent, does not exist in claims 21 and 46.

Returning to the aforementioned telephonic interview, the Examiner explained that she did not clearly understand the rejected claims. Therefore, the following endeavors to explain the claims' plain language.

Claim 21:

The claimed method pertains to provisioning capacity in a network where nodes are interconnected with optical links. An optical link is, typically, a fiber. In some designs fibers have signals flowing only in one direction, and in other design fibers have signals flowing in both directions. This is an attribute of the system design; not an attribute of the fiber.

Claim 21 focuses on a "first node" in the network. The method specifies the steps of receiving control signals and of tuning a transceiver pool. The transceiver pool is interposed between "customer side" ports, of which there is at least one, and N "optical director side ports."

Referring to FIG. 3 (which is clearly permitted when analyzing a claim for compliance with 35 USC 112, first paragraph and second paragraph), it shows element 127 (transceiver pool) and element 117 (optical director). There is a line that extends upward from the transceiver pool (immediately to the left of the label "CUSTOMERS"), and the physical connection point of that line to the transceiver

Afferton 2003-0075

pool constitutes a "customer side port". If desired, one can alternatively consider the physical connection point of that line to node 106 as the "customer side port." In such a case, the "customer side port" is a port of the transceiver pool and a port of the node. There is also a line that extends downward from the transceiver pool to the optical director. The physical connection point of that line to the transceiver pool constitutes an "optical director side" port. The claim specifies that there may be N such ports.

The claim further specifies that the tuning of the first transceiver pool is "to deliver an information-bearing signal to one of said director ODS ports" and "to accept an information-bearing signal from said ODS port for delivery to said CS port." Lastly, the step of tuning specifies the nature of the signal outputted to the optical director side port; to wit, "at a wavelength that is dictated by said control signals and carries information that is substantially the same as information provided to said transceiver pool by said CS port." That means that the information that the customer provides is outputted by the transceiver pool albeit, possibly not at the frequency, or wavelength, at which it was supplied by the customer.

The last clause of claim 21 specifies a step of routing, performed by an optical director elements which has N+2 ports, with N of those points participating in the connection to the N optical director side ports of the transceiver pool, and the remaining two being connected to the network's links.

Based on the above it is respectfully submitted that claim 21 is in full compliance with 35 USC 112, second paragraph. If the Examiner disagrees, applicants respectfully request that the Examiner specifically point out that which the Examiner deems unclear.

Claim 46:

This claim is directed to a network arrangement that includes interconnected nodes, and specifies in detail at least one of those nodes. The specified node comprises a transceiver pool, and an optical director element. With reference to FIG. 3, for example, those are elements 127 and 117, respectively.

Afferton 2003-0075

The claim specifies that the transceiver pool comprises transceivers, and each has a customer-side connection point and a director-side connection point. The term "connection point" is used, rather than the term "port" because the term "connection point" clearly restricts the term to a physical point of connection.

The claim further specifies that at the director-side connection point a transceiver outputs a signal "at a wavelength that is specified by an electrical control signal applied to said transceiver" and accepts similar signals.

The optical director element is specified to have a plurality of "local" ports that are each connected to one of the above-mentioned director-side connection points, and a plurality of "bi-directional long-reach" ports. The optical director is further characterized by the claim to be one that outputs onto the "long-reach" ports signals "that are suitable for long-reach optical transmission." The optical director is controlled by electrical control signals.

Based on the above it is respectfully submitted that claim 46 is in full compliance of 35 USC 112, second paragraph. If the Examiner disagrees, applicants respectfully request that the Examiner specifically point out that which the Examiner deems unclear.

Claims 21 and 23-29 were rejected under 35 USC 102 as being anticipated by Sutter et al US Patent 5,760,934 (Sutter), and claims 1-14, 20, and 22 were rejected under 35 USC 103 as being unpatentable over Sutter. Claims 30-40 were rejected under 35 USC 103 as being unpatentable over Sutter in view of Okanoya et al, US Patent 6,128,657.

These are the same rejections that were lodged in an Office Action dated 4/17/2008, a response to which was filed on 7/29/2008. (Claims 41-45 were rejected under 35 USC 102, but now they are rejected under 35 USC 103, and a new rejection of claims 46-47 was lodged under 35 USC 103).

Because the rejections of most of the claims, and particularly the independent claims, are the same as before, it is important to address the areas of disagreement between the Examiner and applicants, as evidenced in the Response to Arguments section of the Office action.

Afferton 2003-0075

Alas, applicants are hampered by the fact that the Examiner is referring to "in response 1, 3, and 5...", "in response 2...", and "in response 4 and 6...", but applicants find no categorization within the previous Office action response (amendment) of any subdivision that can be categorized as responses 1 through 6. Still, the paragraph in the middle of page 21 is clear enough to permit a rebuttal.

In said paragraph, the Examiner states that the

Sutter's reference clearly teaches the bi-directional local input as recited in claim 1, "a director element (i.e., MO1) having bidirectional local input ports (i.e. port at X4N and X1N)" For example, transmission of the information signals (i.e.  $\lambda_1 \lambda_2 \lambda_3 \lambda_4$ ) from the adjacent nodes take place at X4N and X1N, symbolized by double arrow, e.g. signal from X4N towards the west interface O and toward the element 14N.

What the above clearly informs is that the Examiner considers MO1 as the "director element" of claim 1. However, the following statement -- "having bidirectional local input ports (i.e. port at X4N and X1N)" -- is not clear, as to which port the Examiner considers to be a local port.

Elements X4N and X1N are each splitters. A splitter is a three port element, and FIG. 2 of the reference (a copy of which is included herein) clearly shows the three ports. Also included herein is a drawing sheet that highlights the structure of MO1 in the neighborhood of elements X4N and X1N, and (in the lower half of the sheet) depicts the general structure of a splitter. That depiction clearly shows the three ports of a splitter (marked 11, 12, and 13).

Getting back to the Examiner's remarks, the question is: which of the ports of X4N and X1N the Examiner considers to be the "local input ports"?

Considering that (a) port 13 of X4N is connected to an element within MO1, (b) port 12 is coupled to a fiber that is connected to the "O" side of ME 1, and ME1 is controlled by controller G (see FIG. 1), and (c) port 11 is connected to a fiber that goes to another node, and that the optical network has "local input ports" and "other ports," it is believed that the correspondence that is most adverse to applicants' claim is that 12 is one of the "local input ports," port 11 is one of the "other ports," and that port 13 is NOT an optical director port.

Afferton 2003-0075

With this correspondence established, the question is: is port 12 of X4N a bi-directional port?

Respectfully, the answer is: NO. Admittedly, the FIG. 1 drawing found in the patent publication is a bit fuzzy relative to some of the arrows that indicate signal flow, but FIG. 2 is fairly clear, and comports with applicants' view that the signals flow throughout the FIG. 1 network only in one direction through all of the fibers. These flows are depicted in the enlarged segment shown on the second included drawing sheet. In particular relative to the signal flow that is experienced by port 12, the flow is from port 12 to the "O" side of ME1.

Applicants see nothing that can be characterized as a double arrow, and this observation pertains to each of the elements mentioned in the sentence that begins with "For example," to wit, X4N, X1N, and I4N.

Thus, it is respectfully submitted that claim 1 specifies bi-directional ports and (and consequent signal flows) whereas the reference does NOT have bidirectional ports or signal flows. The unidirectional signal flows of Sutter are an essential attribute of the entire arrangement and, therefore, it is respectfully submitted that a person skilled in the art would not find it obvious or desirable to modify the Sutter reference so as to employ bi-directional ports (for it will entail an entire abandonment of the scheme disclosed by Sutter).

Similar arguments are applicable to the other claims and, therefore, in light of the above amendments and remarks, applicants respectfully submit that all of the Examiner's rejections have been overcome. Reconsideration and allowance are respectfully solicited.

Respectfully,  
Thomas Afferton  
Kenneth Duell  
Simon Zelingher  
Hossein Eslambolchi  
Martin Birk  
Kathleen A. Tse

Dated: 3/3/09

By 

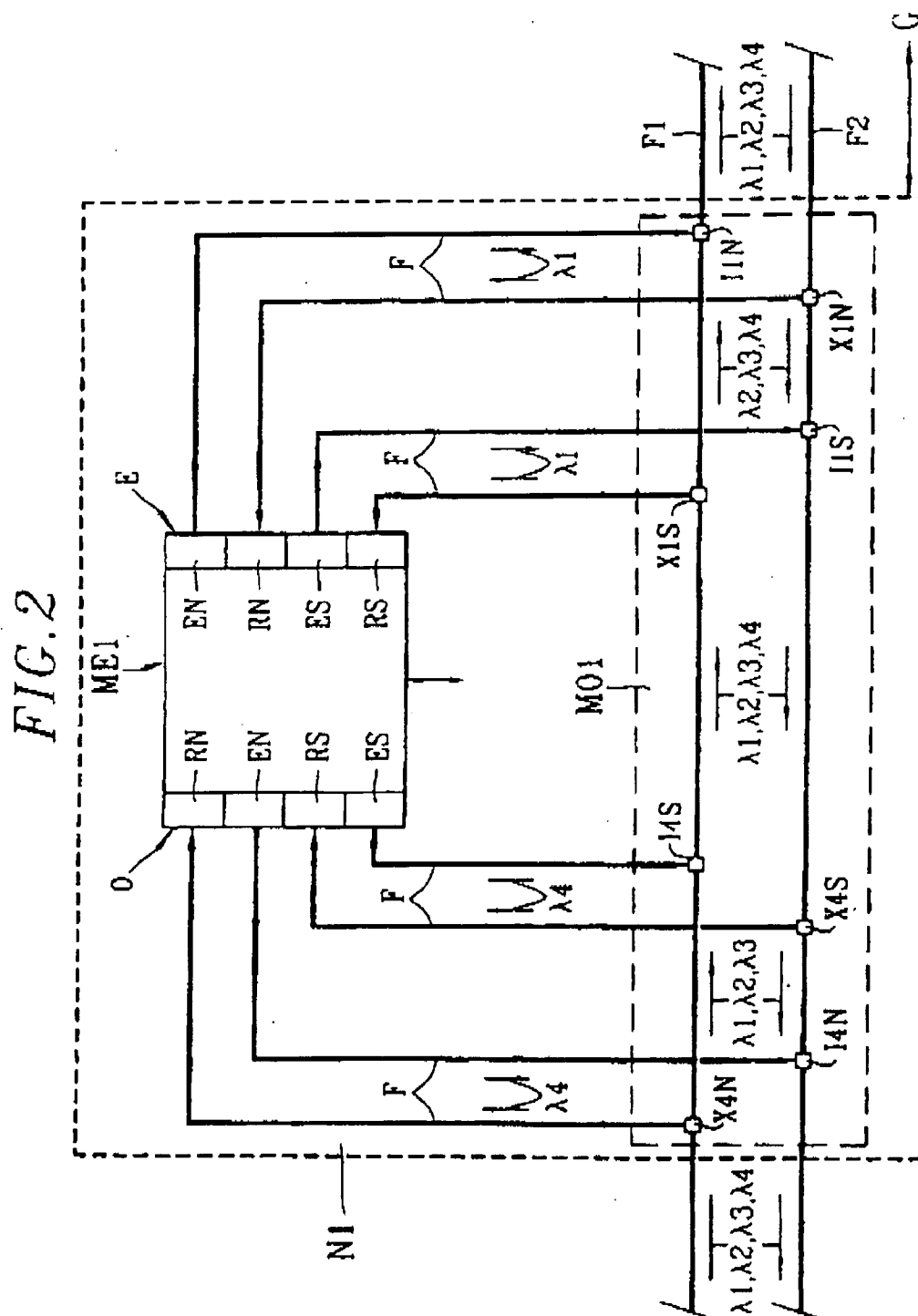
Henry T. Brendzel  
Reg. No. 26,844  
Phone (973) 467-2025  
Fax (973) 467-6589  
email [brendzel@comcast.net](mailto:brendzel@comcast.net)

U.S. Patent

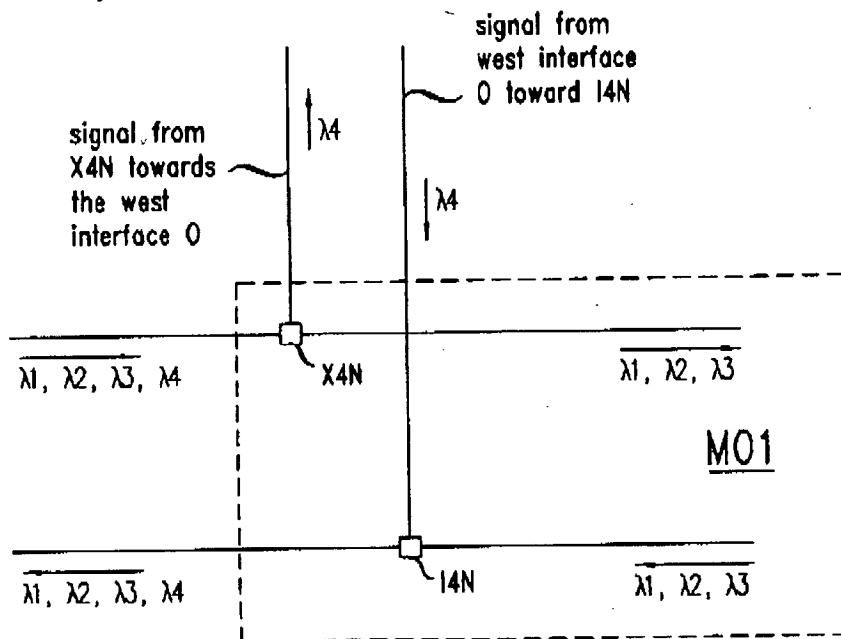
Jun. 2, 1998

Sheet 2 of 4

5,760,934



Portion of FIG. 2



Structure of element X4N

